

**RESERVOIR SEDIMENT
DATA SUMMARY**

Walla Walla River Arm - McNary Reservoir
NAME OF RESERVOIR

76-14

DATA SHEET NO.
(Sheet 1 of 2)

DAM	1. OWNER Corps of Engineers			2. STREAM Walla Walla			3. STATE Washington								
	4. SEC. TWP. RANGE			5. NEAREST TOWN Wallula			6. COUNTY Walla Walla								
	7. STREAM BED ELEVATION 302			8. TOP OF DAM ELEVATION 340.0			9. SPILLWAY CREST ELEV. 340.0 1/								
RESERVOIR	10. STORAGE ALLOCATION		11. ELEVATION TOP OF POOL		12. ORIGINAL SURFACE AREA ACRES		13. ORIGINAL CAPACITY ACRE-FEET		14. GROSS STORAGE ACRE-FEET		15. DATE STORAGE BEGAN				
	a. MULTIPLE USE		340.0		849		9688 2/		9688 2/		24 Apr 1953				
	b. FLOOD CONTROL														
	c. POWER														
	d. WATER SUPPLY										16. DATE NORMAL OPER. BEGAN				
	e. IRRIGATION										6 Nov 1953				
	f. CONSERVATION														
	g. SEDIMENT														
	h. INACTIVE														
17. LENGTH OF RESERVOIR 5 MILES				AV. WIDTH OF RESERVOIR 0.27 MILES											
WATERSHED	18. TOTAL DRAINAGE AREA 1760 SQ. MI.				22. MEAN ANNUAL PRECIPITATION 8-45 (57) INCHES										
	19. NET SEDIMENT CONTRIBUTING AREA 1760 SQ. MI.				23. MEAN ANNUAL RUNOFF 4.57 (11) INCHES										
	20. LENGTH 75 MILES		AV. WIDTH 23.5 MILES		24. MEAN ANNUAL RUNOFF 430,000 (11) AC.-FT.										
	21. MAX. ELEV. 6250		MIN. ELEV. 302		25. CLIMATIC CLASSIFICATION Arid to humid										
	26. DATE OF SURVEY		27. PERIOD YEARS		28. ACCL. YEARS		29. TYPE OF SURVEY		30. NO. OF RANGES OR CONTOUR INT.		31. SURFACE AREA ACRES		32. CAPACITY ACRE-FEET		33. C/W RATIO AC.-FT. PER SQ. MI.
24 Apr 1953						Ranges		9		849		9688		5.50	
Nov 1956		3.61		3.61		(D)		1953 to		7237		4.11			
Nov 1958		2.00		5.61				1960		5507		3.13			
Nov 1960		2.00		7.61				6		4656		2.65			
Sep 1961		0.83		8.44				1961 to		3569		2.03			
Sep 1962		1.00		9.44				1963		3458		1.96			
Sep 1963		1.00		10.44						2918		1.66			
SURVEY DATA	26. DATE OF SURVEY		34. PERIOD ANNUAL PRECIPITATION		35. PERIOD WATER INFLOW ACRE-FEET			36. WATER INFL. TO DATE AC.-FT.							
			a. MEAN ANNUAL		b. MAX. ANNUAL		c. PERIOD TOTAL		a. MEAN ANNUAL		b. TOTAL TO DATE				
			14.58		371,596		532,500		1,341,463		371,596		1,341,463		
			17.04		468,500				937,000		406,143		2,278,463		
			17.40		443,080				886,160		415,815		3,164,623		
			13.49		487,024				404,230		422,850		3,568,853		
			16.72		348,700				348,700		414,995		3,917,553		
			15.26		312,245				312,245		405,153		4,229,798		
	26. DATE OF SURVEY		37. PERIOD SEDIMENT DEPOSITS ACRE-FEET			38. TOTAL SED. DEPOSITS TO DATE ACRE-FEET.									
			a. PERIOD TOTAL		b. AV. ANNUAL		c. PER SQ. MI.-YEAR		a. TOTAL TO DATE		b. AV. ANNUAL		c. PER SQ. MI.-YEAR		
			2451 (2571) 3/		712		0.405		2451 (2571)		712		0.405		
			1730 (1702)		851		0.484		4181 (4273)		762		0.433		
			851 (895)		448		0.255		5033 (5167)		679		0.386		
			1087 (1087)		1310		0.744		6120 (6255)		741		0.421		
			111 (129)		129		0.073		6231 (6384)		676		0.384		
		540 (554)		554		0.315		6771 (6938)		665		0.378			
26. DATE OF SURVEY		39. AV. DRY WGT. LBS. PER CU. FT.		40. SED. DEP. TONS PER SQ. MI.-YR.		41. STORAGE LOSS PCT.		42. SED. INFLOW PPM							
		a. PERIOD		b. TOTAL TO DATE		a. AV. AN.		b. TOT. TO DATE		a. PERIOD		b. TOT. TO DATE			
		75*		662		662		7.35		2304		2304			
				791		707		70.87		2183		2254			
				417		631		7.01		1214		1962			
				1215		688		7.65		3232		2107			
				119		627		6.98		445		1959			
				515		517		6.86		2133		1971			

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION											
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION											
Elevation - capacity curves not developed												

26. DATE OF SURVEY	44. REACH DESIGNATION PERCENT OF TOTAL ORIGINAL LENGTH OF RESERVOIR													
	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	-105	-110	-115	-120
PERCENT OF TOTAL SEDIMENT LOCATED WITHIN REACH DESIGNATION														
28.5		33.9	27.0	8.3	2.0		0.2	0.1						

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV. *	INFLOW AC.-FT.
1954	341.8	334.7	364,000	1961	341.3	336.4	432,500
1955	341.2	335.5	283,700	1962	340.9	337.3	348,700
1956	341.9	338.0	575,200	1963	341.0	337.8	312,245
1957	341.4	335.8	439,900				
1958	341.1	338.8	486,300				
1959	341.1	338.8	520,000				
1960	341.0	336.5	367,800				

46. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
Elevation - area - capacity curves not developed								

47. REMARKS AND REFERENCES
 1/ Elevation of top of gates.
 2/ Items 13 and 14. Original capacity ranges 1-9.
 3/ Items 37a and 38a. Above crest deposits within original flow lines.
 * Assumed.

48. AGENCY MAKING SURVEY U.S. Army, C.E., Walla Walla District
 49. AGENCY SUPPLYING DATA U. S. Army, C.E., Walla Walla District 50. DATE 12 March 1964

RESERVOIR SEDIMENT
DATA SUMMARY

Walla Walla River Arm - McNary Reservoir
NAME OF RESERVOIR

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS

76-14
DATA SHEET NO.
(sheet 2 of 2)

DAM	1. OWNER Dept. of Army, CE		2. STREAM Walla Walla		3. STATE Washington											
	4. SEC. 26 TWP. 7 N. RANGE 31 E.		5. NEAREST TOWN Wallula		6. COUNTY Walla Walla											
7. STREAM BED ELEVATION 302		8. TOP OF DAM ELEVATION 340		9. SPILLWAY CREST ELEV. 340 1/												
RESERVOIR	10. STORAGE ALLOCATION		11. ELEVATION TOP OF POOL		12. ORIGINAL SURFACE AREA ACRES		13. ORIGINAL CAPACITY ACRE-FEET		14. GROSS STORAGE ACRE-FEET		15. DATE STORAGE BEGAN					
	a. MULTIPLE USE		340		849		9688 2/		9688 2/		24 Apr 1953					
	b. FLOOD CONTROL															
	c. POWER															
	d. WATER SUPPLY										16. DATE NORMAL OPER. BEGAN					
	e. IRRIGATION										6 Nov 1953					
	f. CONSERVATION															
	g. SEDIMENT															
h. INACTIVE																
WATERSHED	17. LENGTH OF RESERVOIR 5 MILES				AV. WIDTH OF RESERVOIR 0.27 MILES											
	18. TOTAL DRAINAGE AREA 1760 SQ. MI.				22. MEAN ANNUAL PRECIPITATION 8-45 INCHES											
	19. NET SEDIMENT CONTRIBUTING AREA 1760 SQ. MI.				23. MEAN ANNUAL RUNOFF 4.54 (14) INCHES											
	20. LENGTH 75 MILES				AV. WIDTH 23.5 MILES				24. MEAN ANNUAL RUNOFF - 426,600 (14) AC.-FT.							
21. MAX. ELEV. 6250				MIN. ELEV. 302				25. CLIMATIC CLASSIFICATION Arid to humid								
SURVEY DATA	26. DATE OF SURVEY		27. PERIOD YEARS		28. ACCL. YEARS OF SURVEY		29. TYPE OF SURVEY		30. NO. OF RANGES OR CONTOUR INT.		31. SURFACE AREA ACRES		32. CAPACITY ACRE-FEET		33. C/W RATIO AC.-FT. PER SQ. MI.	
	Sep 1963		1.00		10.44		Range (D)		6 4/		2917		1.66			
	Oct 1964		1.08		11.52				6 4/		2874		1.63			
	Jul 1965		0.75		12.27				9		1912		1.09			
	26. DATE OF SURVEY		34. PERIOD ANNUAL PRECIPITATION		35. PERIOD WATER INFLOW ACRE-FEET				36. WATER INFL. TO DATE AC.-FT.							
					a. MEAN ANNUAL		b. MAX. ANNUAL		c. PERIOD TOTAL		a. MEAN ANNUAL		b. TOTAL TO DATE			
	Sep 1963		15.26		312,200		312,200		312,200		405,153		4,229,798			
	Oct 1964		12.29		299,400		299,400		302,400		393,420		4,532,198			
	Jul 1965		--		--		--		617,900		419,731		5,150,098			
	26. DATE OF SURVEY		37. PERIOD SEDIMENT DEPOSITS ACRE-FEET				38. TOTAL SED. DEPOSITS TO DATE ACRE-FEET.									
		a. PERIOD TOTAL		b. AV. ANNUAL		c. PER SQ. MI.-YEAR		a. TOTAL TO DATE		b. AV. ANNUAL		c. PER SQ. MI.-YEAR				
Sep 1963		540 (554) 3/		540 (554)		0.307 (0.315)		6771 (6938) 3/		649 (665)		0.369 (0.378)				
Oct 1964		43 (43)		40 (40)		0.023 (0.023)		6814 (6981)		591 (606)		0.336 (0.344)				
Jul 1965		962 (1355)		-- (1807)		-- (1.027)		7776 (8336)		634 (679)		0.360 (0.386)				
26. DATE OF SURVEY		39. AV. DRY WGT. LBS. PER CU. FT.		40. SED. DEP. TONS PER SQ. MI.-YR.		41. STORAGE LOSS PCT.		42. SED. INFLOW PPM								
				a. PERIOD		b. TOTAL TO DATE		a. AV. AN.		b. TOT. TO DATE		a. PERIOD		b. TOT. TO DATE		
Sep 1963		75 *		501 (515) 3/		603 (617)		6.70		69.9		2079 (2133) 3/		1924 (1971)		
Oct 1964				38 (38)		549 (562)		6.10		70.3		171 (171)		1807 (1851)		
Jul 1965				-- (1678)		588 (631)		6.54		80.3		1871 (2636)		1815 (1945)		

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION													
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION													
Elevation-capacity curves not developed.														

26. DATE OF SURVEY	44. REACH DESIGNATION PERCENT OF TOTAL ORIGINAL LENGTH OF RESERVOIR														
	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	-105	-110	-115	-120	-125
PERCENT OF TOTAL SEDIMENT LOCATED WITHIN REACH DESIGNATION															
Sep 1963	27.8	33.4		26.7	9.0	2.7		0.2	0.2						
Oct 1964	28.0	33.2		26.2	9.6	2.6		0.2	0.2						
Jul 1965	31.5	29.6		23.8	10.0	4.6		0.5	0.0						

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV. ✓	INFLOW AC.-FT.
1963	341.0	337.8	312,200				
1964	341.6	335.4	299,350				
1965	340.6	334.9	628,600				

46. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
Elevation-area-capacity curves not developed.								

47. REMARKS AND REFERENCES

- 1/ Elevation of top of gates in closed position.
- 2/ Original capacity ranges 1-9.
- 3/ All figures in parentheses in blocks 37, 38, 40 and 42 include above crest deposits within original flow lines.
- 4/ Ranges 7 to 9 not surveyed due to little change. Assume no change.

* Assumed.

48. AGENCY MAKING SURVEY Dept. of Army, Walla Walla Dist, CE

49. AGENCY SUPPLYING DATA Dept. of Army, Walla Walla Dist, CE

50. DATE 28 Feb 1968